

APPENDIX C

(CLEAN VERSION OF ALL PENDING CLAIMS)

(Serial No. 10/009,109)

CLAIMS

What is claimed is:

1. A method of determining allergen activity in dust, comprising:
providing a dust sample;
extracting from the dust sample at least one breakdown component of proteins or peptides;
reacting the extracted at least one breakdown component with a colorimetric amine detection reagent; and
quantitatively measuring the intensity of any resulting coloration, the allergen activity being proportional to the intensity of coloration.
2. (Amended) The method according to claim 1, further comprising exposing the dust sample to a protease substrate, the protease substrate having immobilized thereon a protein or peptide on which protease in the dust sample may act.
3. (Amended) The method according to claim 2, further comprising adding a protease inhibitor to the dust sample to suppress activity of a specific protease prior to exposure to the protease substrate.
4. (Amended) The method according to claim 2, in which the protease substrate is protease specific, with only a specific protease being able to act on the protein or peptide immobilized on the protease substrate.
5. (Twice Amended) The method according to claim 2, in which the protease substrate comprises a filter to facilitate extraction of mobile breakdown components of the protein or peptide immobilized on the protease substrate.
6. (Twice Amended) The method according to claim 1, in which the at least one breakdown component extracted from the dust sample includes amines, amino acids or peptides present in the dust sample.

7. (Twice Amended) The method according to claim 1, in which the colorimetric amine detection reagent is 2,4,6-trinitrobenzene sulphonic acid (hereinafter referred to as TNBSA).

8. (Twice Amended) The method according to claim 1, in which the at least one breakdown component is extracted by bringing the dust sample into contact with a surface active agent (surfactant).

9. (Amended) The method according to claim 8, further comprising separating any dust sample solid residues from the surfactant prior to reacting with the colorimetric amine detection reagent.

10. (Twice Amended) The method according to claim 8, in which the surfactant is an aqueous solution comprising sodium dodecyl sulphate.

11. (Amended) The method according to claim 10, in which the aqueous solution is alkaline.

12. (Twice Amended) The method according to claim 10, in which the aqueous solution further comprises sodium hydrogen carbonate.

13. (Twice Amended) The method according to claim 1, in which the intensity of any resulting coloration is quantitatively measured by comparison with at least one reference color.

14. (Amended) The method according to claim 13, in which different color references are selected to indicate at least three different kinds of allergen activity.

15. (Twice Amended) The method according to claim 1, further comprising preserving the reaction mixture by using a stopping agent after a preselected incubation period.

16. (Amended) A method of determining allergen activity in dust, comprising:
providing a dust sample;
providing a protease substrate, the protease substrate having immobilized thereon proteins or peptides labeled with a chromogenic substance;
exposing the protease substrate to the dust sample under conditions whereby a protease in the dust sample may act on the immobilized proteins or peptides to produce mobile breakdown components labeled with the chromogenic substance; and
quantitatively measuring the intensity of any resulting coloration, the allergen activity being proportional to the intensity of the coloration.

17. (Amended) The method according to claim 16, further comprising adding a protease inhibitor to the dust sample to suppress activity of a specific protease prior to exposure to the protease substrate.

18. (Amended) The method according to claim 16, in which the protease substrate is protease specific, with only a specific protease being able to act on the proteins or peptides immobilized on the protease substrate.

19. (Twice Amended) The method according to claim 16, in which the protease substrate comprises a filter to facilitate extraction of mobile breakdown components labeled with the chromogenic substance.

20. (Twice Amended) The method according to claim 16, in which the intensity of any resulting coloration is quantitatively determined by comparison with at least one reference color.

21. (Amended) A kit apparatus for use in a domestic environment for indicating allergen levels in dust, comprising a first chamber comprising a surfactant for extracting from a dust sample at least one breakdown component of proteins and peptides; a second chamber comprising a colorimetric amine detection reagent; means for quantitatively measuring the intensity of any coloration resulting from reacting the extract-containing surfactant and the

colorimetric amine detection reagent; and means for indicating relative level of allergen activity in the dust sample based on the quantitative measurement.

22. (Amended) The kit apparatus according to claim 21, further comprising a filter for filtering dust sample solid residues from the surfactant before reacting with the colorimetric amine detection reagent.

23. (Twice Amended) The kit apparatus according to claim 21, in which one of the two chambers has the capacity to receive the contents of the other chamber.

24. (Amended) The kit apparatus according to claim 23, in which the second chamber has the capacity to hold the colorimetric amine detection reagent and the surfactant.

25. (Twice Amended) The kit apparatus according to claim 21, in which the quantitative measuring means comprises at least one color reference, against which the intensity of any coloration may be compared.

26. (Twice Amended) The kit apparatus according to claim 21, in which the indicating means comprises a scale, which is linked to the intensity of any coloration measured.

27. (Twice Amended) The kit apparatus according to claim 21, further comprising a third chamber comprising a stopping reagent to limit the reaction between the extract-containing surfactant and the colorimetric amine detection reagent.

28. (Twice Amended) The kit apparatus according to claim 21, in which the colorimetric amine detection reagent is 2,4,6-trinitrobenzene sulphonic acid.

29. (Amended) An apparatus for use in determining allergen levels in a dust sample, comprising a protease substrate having immobilized thereon proteins or peptides labeled with a chromogenic substance, whereby any protease in the dust sample may act on the immobilized

proteins or peptides to produce mobile breakdown components labeled with the chromogenic substance.

30. (Twice Amended) The apparatus according to claim 29, in which proteins labeled with the chromogenic substance comprise azo-albumin.